

What is claimed is:

1. A method for causing a network device to locally perform a service, comprising the steps of:

receiving at the network device a document written in accordance with a markup language and a corresponding document definition;

parsing by the network device the received document in accordance with the corresponding document definition; and

executing the service on the network device in accordance with the parsed document.

2. A method according to claim 1, wherein the step of executing includes the step of interfacing with hardware and software on the network device.

3. A method according to claim 1, wherein the markup language is XML.

4. A method according to claim 3, wherein the corresponding document definition is an XML DTD.

5. A method according to claim 1, further comprising:

retrieving the corresponding document definition from a plurality of document definitions in accordance with an identifier in the received document.

6. A method according to claim 5, wherein the plurality of document definitions are provided in a local storage of the network device.

7. A method according to claim 3, further comprising the step of:

retrieving the corresponding document definition from a plurality of document definitions in accordance with an identifier in the received document.

8. A method according to claim 5, wherein the plurality of document definitions are provided in a local storage of the network device.

9. A method according to claim 1, wherein the step of parsing includes the step of parsing from the document an identifier corresponding to the service.

10. A method according to claim 9, wherein the step of parsing further includes the step of parsing from the document runtime parameters corresponding to the service.

11. A method according to claim 5, further including the step of:

instantiating an object corresponding to the service in accordance with the parsed identifier.

12. A method according to claim 10, further including the step of:

instantiating an object corresponding to the service in accordance with the parsed identifier and the parsed runtime parameters.

13. A method according to claim 1, wherein the network device comprises one of a router, a switch, and a hub.

14. A method according to claim 1, wherein the network device comprises a packet forwarding architecture.

15. A method according to claim 1, further comprising the step of preparing a response corresponding to the executed service.

16. A method according to claim 14, further comprising the step of forwarding the response to a remote requestor of the service.

20           17. A network device for locally performing a service in response to a remote request, comprising:

means for receiving at the network device a document written in accordance with a markup language and a corresponding document definition;

means for parsing by the network device the received document in accordance with the corresponding document definition; and

means for executing the service on the network device in accordance with the parsed document.

18. A network device according to claim 17, wherein the means for executing includes means for interfacing with hardware and software on the network device.

19. A network device according to claim 17, wherein the markup language is XML.

20. A network device according to claim 19, wherein the corresponding document definition is an XML DTD.

21. A network device according to claim 17, further comprising:

means for retrieving the corresponding document definition from a plurality of document definitions in accordance with an identifier in the received document.

22. A network device according to claim 21, wherein the plurality of document definitions are provided in a local storage of the network device.

23. A network device according to claim 19, further comprising:

means for retrieving the corresponding document definition from a plurality of document definitions in accordance with an identifier in the received document.

24. A network device according to claim 21, wherein the plurality of document definitions are provided in a local storage of the network device.

25. A network device according to claim 17, wherein the means for parsing includes means for parsing from the document an identifier corresponding to the service.

26. A network device according to claim 25, wherein the means for parsing further includes means for parsing from the document runtime parameters corresponding to the service.

27. A network device according to claim 21, further including:

means for instantiating an object corresponding to the service in accordance with the parsed identifier.

28. A network device according to claim 26, further including:

means for instantiating an object corresponding to the service in accordance with the parsed identifier and the parsed runtime parameters.

29. A network device according to claim 17, wherein the network device comprises one of a router, a switch, and a hub.

30. A network device according to claim 17, wherein the network device comprises a packet forwarding architecture.

31. A network device according to claim 17, further comprising means for preparing a response corresponding to the executed service.

32. A network device according to claim 30, further comprising means for forwarding the response to a remote requestor of the service.

33. A network device for locally performing a service in accordance with a received document written in a document markup language, comprising:

a parser that is adapted to parse the received document in accordance with a document definition to obtain an identifier of the service; and

a service launcher that is adapted to launch the service corresponding to the identifier parsed from the received document.

a network data transfer service that is adapted to communicate with remote devices for receiving the document.

35. A network device according to claim 34, wherein the network data transfer service comprises an HTTP server.

36. A network device according to claim 33, wherein the markup language is XML.

37. A network device according to claim 36, wherein the document definition is an XML DTD.

38. A network device according to claim 33, further comprising a document definition storage coupled to the parser that stores a plurality of document definitions, the parser being further adapted to select the document definition from the stored plurality of document definitions in accordance with a document definition identifier.

39. A network device according to claim 33, further comprising a services storage coupled to the service launcher that stores a plurality of services, the service launcher being further adapted to select the service from the stored plurality of services in accordance with the parsed identifier.

40. A network device according to claim 33, further comprising an Oplet Runtime Environment, the service launcher being further adapted to launch the service under the Oplet Runtime Environment.

41. A network device according to claim 33, further comprising a packet forwarding switch fabric.

42. A network device according to claim 41, wherein the launched service causes changes in how packets are forwarded through the packet forwarding switch fabric.

43. A network device according to claim 41, wherein the launched service monitors performance indicators of how packets are forwarded through the packet forwarding switch fabric.

44. A network device according to claim 41, wherein the launched service accesses a MIB on the network device.

45. A network device according to claim 33, further comprising device APIs for interoperateing with device hardware and software for executing the launched services.

46. A network device according to claim 40, further comprising device APIs for interoperating with device hardware and software for executing the launched services.

47. A network device according to claim 41, further comprising device APIs for interoperating with device hardware and software for executing the launched services.

48. A method for causing a network device to locally perform a service, comprising the steps of:

identifying the service to be performed at a remote client computer;

preparing at the remote client computer a document written in a markup language in accordance with a document definition, the document including an identifier of the service;

transmitting the document to the network device;

identifying at the network device the document definition corresponding to the transmitted document;

parsing by the network device the transmitted document in accordance with the corresponding document definition; and

executing the service on the network device in accordance with the parsed document.

50. A method according to claim 49, wherein the corresponding document definition is an XML DTD.